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CONGRATULATIONS

To President Jerry Murray, Dave Fulkerson and Mickey Nelson for the excellent program arranged at the 29th Annual Conference of the Montana Coroner's Association. The attendance was gratifying and the presentations edifying.

Lay coroners throughout the United States are constantly criticized regarding their expertise. It's great to see Montana's coroners upgrading themselves on their own and taking steps to provide educational qualifications for their members.

EVIDENCE

Enclosed are helpful hints regarding evidence sent to the lab. These are not complete, but address more frequent problems. Remember though, if the laboratory is closed there is still a forensic pathologist to help you.

ON CALL SCHEDULE - MONTANA STATE MEDICAL EXAMINER

JULY 1983

275 W. Front Street
Missoula, Montana 59802

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1	2 KEN MUELLER
3 KEN MUELLER	4 KEN MUELLER	5	6	7	8	9 RON RIVERS
10 RON RIVERS	11	12	13	14	15	16 JOHN PFAFF
17 JOHN PFAFF	18	19	20	21	22	23 RON RIVERS
24 RON RIVERS 31 JOHN PFAFF	25	26	27	28	29	30 JOHN PFAFF

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Dr. John Pfaff - Great Falls
Hospital - 727-3333
Home - 727-3905

Dr. Ken Mueller- Billings
Hospital - 657-7000
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SHOTGUN WOUNDS
JULY 1983
R. L. Rivers, M.D.

Two young males approximately six feet from each other were found dead in the front room of their apartment. The front door was unlocked. One had an extensive head wound. The other had a gaping wound in the chest. A pump action 16 gauge shotgun with an adjustable choke was lying nearby. It had been moved by the ambulance personnel.

"Now their prints are all over it", said the rookie.

"I hope they didn't grab the end of the barrel", commented the chief as he slipped the gun into the evidence bag.

"Well, that chest wound is a good four inches wide. Using the old thumb rule of an inch a yard that would place the muzzle at least twelve feet away", said the rookie as he bent over the body.

"Not necessarily", said the chief. "We better let Doc and the firearm examiner figure that out. Better get us some rubber gloves so we can collect those tissue fragments from the head wound."

As the rookie performed this gruesome task he asked the chief, "Do you think this is a murder suicide? Perhaps they are homosexuals that had a fight."

The chief spotted a one inch round abrasion on the neck of the victim with the head wound. "Nope, I'll bet this is a double murder. Let's search the place for any evidence of drugs."

Sure enough a briefcase was found with some traces of powder which was later identified as cocaine.

QUESTIONS:

1) In the good old days a fair estimate of muzzle to target distance could be made by saying every inch of wound diameter meant at least a yard away. Today that can be inaccurate. Why?

2) Why was the chief worried about the end of the barrel?

3) Shotgun wounds to the head are devastating. Skull fragments and brain tissue may be all over the room. Why is the recovery of this tissue so important?

4) Why did the chief suspect drugs and a double murder?

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ANSWERS:

1. There are four important factors that can effect a shotgun pattern or wound.

   a. The choke of the gun - cylinder, modified cylinder or full choke will reduce the pattern in that order.
   b. Barrel length - sawed off shotguns give a wider pattern
   c. Plastic cups or power pistons in the shotshell will reduce a pattern.
   d. An intermediate object - firing through glass, screen doors, or even heavy clothing will increase the pattern in diameter.

   The firearms examiner, using the same weapon and identical ammunition is best equipped to estimate a muzzle to target distance.

2. If an adjustable choke is tampered with at the scene then the accuracy of muzzle to target distance is compromised.

3. Skull fragments can be placed together to determine the exact entrance wound. The brain tissue may contain pellets, wadding or cups that determine the gauge and size of shot in the skull.

   Rifle wounds to the head may be indistinguishable from a shotgun rifled slug wound to the head. The presence of a cardboard wad found in some brain tissue may be our only clue. A white filler material is also used with slugs and buckshot.

4. Abrasions associated with any gunshot wound are important keys in distance determinations. Shotgun wounds are no exception. Round or ovoid abrasions are usually from wadding. "Windmill" like abrasions surrounding a shotgun wound are from shotshell cups. The latter as well as wadding are found in the wounds at distances less than three feet. At greater distances this material separates from the shot charge, does not penetrate the skin and may leave an abrasion such as the chief observed.

   Figuring both wounds were distant and not self-inflicted, and considering their ages, the chief suspected a drug deal. The murderer, when apprehended, confessed to taking the cocaine and paying off the two dealers in hot lead instead of green-backs.